



PO No	Supplier	Line Item No	Ref No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Serial No	Status	Receive Date	Price/Unit	Aggi Day	
PO038946	ACI001-VC	1	1	Net 30	M1018R0.375	1010-1025 Round Bar .375 : MATERIAL: AISI 1018-1025 ROUND BAR M1010S20GA AS PER MIL-S-7097 OR ASTM A108				12	2/6/2018	12	✓	S039961	Stock	2/7/2018	\$ 0.50 / ft		
		2			MT-4140QT-R1.250	MT-4140 QT-R1.250				16		16	✓	S039966	Stock	2/7/2018	\$ 7.09 / ft		
		5			MT-1144-R1.250	1144 Steel Proof Round Bar 1.250"				20		22	✓	S039967	Stock	2/7/2018	\$ 7.71 / ft		
		6			MT-1144-R1.375	1144 Steel Proof Round Bar 1.375"				16		16	✓	S039968	Stock	2/7/2018	\$ 8.68 / ft		
		7			M0061T600.375X01.250	6061-T6 Bar .375 X 1.25 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft					20		20	✓	S039969	Stock	2/7/2018	\$ 1.85 / ft	
		8			M0061T6R0.563	6061-T6 Round Bar .563 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117 4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B221 OR ASTM B221 receive ft					36		36	✓	S039970	Stock	2/7/2018	\$ 1.09 / ft	
		9			MT-4140QT-R1.500	1010-1025 Round Bar 1.500" Dia.				20		23	✓	S039971	Stock	2/7/2018	\$ 9.01 / ft		
										Total:	140		145						

Plex 2/7/2018 9:29 AM Dart Dubois Pascal

**ACIER OUELLETTE INC.**

935, Boul. du Havre . .  
Salaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

**Invoice**

FC00074727

**Sold to**

DART AEROSPACE LTD

1270 , ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7**Shipped to**

, Ontario,

Att : Facturation

Product N° and description	Weight	Qty	U/M	Qty	U/M	Price	Pcs Nb	Price	Amount
ROUND CR 3/8 1018 RANDOM RCR-38-V 5337 1 X 12' R/L HEAT: 41776GM	4.51	12.00	PI_\$CLB	12.00	PI	0.50	0.00	0.000	5.95
ROUND 4140 HEAT TREAT 1 1/4 RANDOM R4140-114H-V 4897 1 X 16' DC HEAT: NF16202066	66.75	16.00	PI_\$CLB	16.00	PI	7.09	0.00	0.000	113.45
ROUND STRESSPROOF 1 1/4 RANDOM RST-114-V 5790 1 X 20' R/L HEAT: 015180	83.40	20.00	PI_\$CLB	20.00	PI	7.71	0.00	0.000	154.25
ROUND STRESSPROOF 1 3/8 RANDOM RST-138-V 5801 1 X 12' DC 1 X 4' DC HEAT: J4013Y	80.80	16.00	PI_\$CLB	16.00	PI	8.68	0.00	0.000	138.94
FLAT ALU 3/8 X 1 1/4 6061-T6 RANDOM FAL-38114-V 2609 1 X 20' HEAT: 201701926	11.02	20.00	PI_\$CLB	20.00	PI	1.85	0.00	0.000	37.02
ROUND ALU 9/16 6061-T6 RANDOM RAL-916-V 5180 3 X 12' HEAT: 201714863	10.54	36.00	PI_\$CLB	36.00	PI	1.09	0.00	0.000	39.23
ROUND 4140 HEAT TREAT 1 1/2 RANDOM R4140-112H-V 4893 1 X 23 1/4" HEAT: 75069193	140.16	23.33	PI_\$CLB	23.33	PI	9.01	0.00	0.000	210.18
SURCHARGE ENERGETIQUE FRAIS ENERGETIQUE	0.00	\$							3.95

**ACIER OUELLETTE INC.**

935, Boul. du Havre  
Salaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-657-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

**Invoice**

FC00074727

**Sold to**

DART AEROSPACE LTD

1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7**Shipped to**

, Ontario,

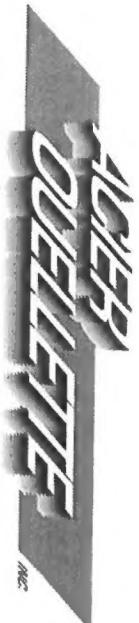
Alt : Facturation

Product N° and description	Weight	Qty	U/M	Qty	U/M	Price	Pcs Nb	Price	Amount
<b>NOTE :</b>									

Conditions : Total Weight (Lbs) : 397.19

All sold and delivered materials remain the property of "Acer Ouellette Inc" until payment is made in full, complete and cashed. All lost materials are at the buyer's expense. The warranty offered by "Acer Ouellette Inc" is the same as offered and honored by the manufacturer and his warranty is transferred by "Acer Ouellette Inc" to the client. The buyer hereby accepts to respect the following conditions: Net 30 days from billing date and the buyer accepts to pay administration charges of 2% per month (24% per annum) on all past due amounts over 30 days. Any default in respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the balance due or the repossession of the goods sold. All claims must be made within five (5) days with the document enclosed. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to a 25% restocking charge.

Subtotal	702.97
TPS/QST : 522 670 774 RT0001	
TVA/QST : 122 127 8182 TQ0001	HST
Total (\$CAD)	794.36
Solde (\$CAD)	794.36



DELIVERY - CLIENT

000072715

ACIER OUELLETTE INC.

Customer № 510001056

935, Bou. du Havre  
Salaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248

2018/02/05

**Billed to** \_\_\_\_\_  
**Shipped to** \_\_\_\_\_  
**Your order No.** \_\_\_\_\_  
Processed by \_\_\_\_\_

DARPA AEROSPACE LTD

1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

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## Product Description

NIR : R-109516-6



DELIVERY - CLIENT

000072715

ACIER OUELLETTE INC.

Customer N°

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5

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Tél.: 450-377-4248 Mtl: 514-336-4248 Ext: 800-667-4248  
Fax: 450-377-5606 Mtl: 514-335-1246 Ext: 666-155-1242

Delivery date

Billed to

DART AEROSPACE LTD

1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

, Ontario,

Carrier  
Salesman

INSTRUCTION F-M

Page

2

Product Description	Weight	Qty	U/M	PCS NB	Internal Use Only
	CMD	EXP	B/O	IN	I S C OUT
5 FLAT ALU 3/8 X 1 1/4 6061-T6 RANDOM FAL-38114-V      2609	11.02	20.00	PL-\$CLB	17 20	20
1 X 20'					
6 ROUND ALU 9/16 6061-T6 RANDOM RAL-916-V      5180	10.55	36.00	PL-\$CLB	34 12	36
3 X 12'					
7 ROUND 4140 HEAT TREAT 1 1/2 RANDOM R4140-112H-V      4893	120.16	20.00	PL-\$CLB	14 23 1/4"	23
1 X 20'					

Total Weight (Lbs): 414.08

NIR : R-109516-6

**Conditions :**  
All sold and delivered materials remain the property of "Acler Ouellette Inc" until payment is made in full, complete and cashed. All lost materials are at the buyer's expense. The warranty offered by Acler Ouellette Inc. is the same as offered and honored by the manufacturer and his warranty is transferred by "Acler Ouellette Inc." to the client. The buyer hereby accepts to respect the following conditions: Net 30 days from billing date and the buyer accepts to pay administration charges of 2% per month (24% per annum) on all past due amounts over 30 days. Any default in respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the balance due or the repossession of the goods sold. All claims must be made within five (5) days with this document enclosed. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to 25% restocking charge.

Total (\$CAD)

Prepared By : 	Verified By : 
Delivered By : 	Time : 10:00 AM
 <span style="font-size: 2em;">M</span> <span style="font-size: 2em;">D</span>	

Customer's Signature

Date



**ACIER OUELLETTE INC.**

**Order - Sales**

**Copy** C000072715

935, Boul. du Havre  
Salaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

**Customer N°** CL10001056  
**Date** 2018/02/05  
**Delivery date** 2018/02/06

**Billed to**  
DART AEROSPACE LTD  
1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

**Shipped to**  
, Ontario,  
ALT : CHANTAL LAVOIE Tél.: 613-632-5200

**Your order N°** PO038946  
**Processed by** Stephanie Dignard

1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

**Salesman**  
OUELLETTE VALLEYFIELD  
**Carrier**  
**Credit Term** Net 30 Days

**Delivery Route** 5 **Page** 1

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
1 ROUND CR 3/8 1018 RANDOM RCR-38-V 5337 <i>1 X 12' RL HEAT: 41776GM</i>	4.51		12.00	PL-\$CLB	0.00						
2 ROUND 4140 HEAT TREAT 1 1/4 RANDOM R4140-114H-V 4B97 <i>1 X 16' DC HEAT: NF16202066</i>	66.75		16.00	PL-\$CLB	0.00						
3 ROUND STRESSPROOF 1 1/4 RANDOM RST-114-V 5790 <i>1 X 20' RL HEAT: —</i>	83.40		20.00	PL-\$CLB	0.00						
4 ROUND STRESSPROOF 1 3/8 RANDOM RST-138-V 5801 <i>1 X 12' DC 1 X 4' DC HEAT: —</i>	80.80		16.00	PL-\$CLB	0.00						



# 5337 RCR-38 ✓

TMA-2147

49801



ARANA Y LUPARDO, 2  
48490 UGAO-MIRAVELLES/VIZCAYA (SPAIN)  
Telf.: 946480211  
Fax: 946480128  
Email: calpradera@calibradospradera.es  
www.calibradospradera.es

## CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a / Made according to:

EN 10204/DIN 50049

3.1

ALBARAN 49709  
Delivery Note Nr.

CLIENTE LES ACIERS TRANSBEC (1997) LTÉE  
CUSTOMER

Nº CERTIFICADO / CERTIFICATE NR.: 49709

Norma : EN 10277

Productos Calibrados de acero. Condiciones técnicas de suministro.

Norm. :

Bright steel products. Technical delivery conditions.

PRODUCTO SOLICITADO / PRODUCT ACCORDING AS PER

REF.	DETALLE	DIÁMETRO (mm)	TIPO	ESTIRADO (%)	LONGITUD (mm)	PIEZAS	DIÁMETRO (mm)	TIPO	ESTIRADO (%)	LONGITUD (mm)	PIEZAS	
DN-47094	12,14 RED. ESTIRADO 63,50 (2 1/2")						1.094	-0,076			917091	63,50
PAR-48470	1018 RED. ESTIRADO 63,50 (1 1/4")						978	-0,051			917092	63,50
PAJ-48393	1018 CUA. ESTIRADO 25,40 (1")						1.036	-0,130			916780	25,40
PAJ-48736	1018 CUA. ESTIRADO 9,53 (3/8")						788	-0,090			913990	9,53
PAJ-48736	1018 CUA. ESTIRADO 12,70 (1 1/2")						992	-0,110			916617	12,70
OUS-47949	1018 RED. ESTIRADO 9,53 (3/8")						2.072	-0,051			911111	9,53
VI-48475	1018 RED. ESTIRADO 9,53 (3/8")						2.130	-0,051			911121	9,53
VI-48475	1018 RED. ESTIRADO 15,88 (5/8")						1.020	-0,051			916940	15,88
VI-48475	1018 RED. ESTIRADO 19,05 (3/4")						996	-0,051			916827	19,05
VI-48475	1018 CUA. ESTIRADO 9,53 (3/8")						746	-0,090			913990	9,53
VI-48475	1018 CUA. ESTIRADO 12,70 (1 1/2")						650	-0,090			916828	9,53
VI-48475	1018 CUA. ESTIRADO 12,70 (1/2")						992	-0,110			916617	12,70
VI-48475	1018 CUA. ESTIRADO 19,05 (3/4")						1.002	-0,130			915992	19,05
VI-48475	1018 CUA. ESTIRADO 22,23 (7/8")						890	-0,130			915746	22,23
VI-48475	1018 CUA. ESTIRADO 25,40 (1")						1.034	-0,130			916780	25,40
VI-48475	1018 CUA. ESTIRADO 44,45 (1 3/4")						992	-0,160			916801	44,45
VI-48475	1018 CUA. ESTIRADO 50,80 (2")						1.194	-0,190			916736	50,80
PAR-48143	1018 CUA. ESTIRADO 25,40 (1")						980	-0,130			916780	25,40
PAR-48143	1018 CUA. ESTIRADO 50,80 (2")						1.194	-0,190			916736	50,80
PAR-48143	12,14 RED. ESTIRADO 38,0 (1 1/2")						1.020	-0,051			916602	38,0
MOP-48145	1018 CUA. ESTIRADO 12,70 (1/2")						990	-0,110			916617	12,70

Composición química de la calidad / Chemical Analysis of Heat

MEDIDA Measurement	OF	COLADA Cast Nr.	% C	% Cr	% Cu	% Mn	% Ni	% N	% Ni	% P	% S	% Si
63,50	0,00	917091	42050 AQ	0,060	0,055	0,011	1,110	0,007	0,000	0,022	0,069	0,310
6,35	0,00	917092	41480 GM	0,160	0,000	0,000	0,750	0,000	0,000	0,021	0,000	0,002
25,40	0,00	916780	41544 C	0,160	0,000	0,000	0,720	0,000	0,000	0,016	0,000	0,160
9,53	0,00	915990	40828 Q	0,150	0,000	0,198	0,760	0,000	0,000	0,016	0,000	0,160
12,70	0,00	916617	41450	0,150	0,000	0,000	0,760	0,000	0,000	0,016	0,000	0,242
9,53	0,00	911111	41776 GM	0,160	0,000	0,290	0,750	0,000	0,000	0,015	0,000	0,194
9,53	0,00	911131	41776 GM	0,160	0,000	0,290	0,750	0,000	0,000	0,021	0,000	0,160
15,88	0,00	916940	41731 AA	0,153	0,000	0,015	0,863	0,000	0,000	0,021	0,000	0,160
19,05	0,00	916827	41645 G	0,160	0,000	0,000	0,640	0,000	0,000	0,014	0,000	0,218
9,53	0,00	915990	40828 Q	0,150	0,000	0,148	0,760	0,000	0,000	0,013	0,000	0,133
		916803	40828 Q	0,150	0,000	0,198	0,760	0,000	0,000	0,016	0,000	0,133
12,70	0,00	916617	41450	0,150	0,000	0,000	0,760	0,000	0,000	0,016	0,000	0,242
19,05	0,00	915992	40828 Q	0,165	0,000	0,000	0,760	0,000	0,000	0,015	0,000	0,194
22,23	0,00	915746	40587 C	0,150	0,000	0,000	0,600	0,000	0,000	0,009	0,000	0,274
25,40	0,00	916780	41544 C	0,160	0,000	0,000	0,720	0,000	0,000	0,017	0,000	0,160
44,45	0,00	916031	40716	0,200	0,000	0,000	0,800	0,000	0,000	0,016	0,000	0,160
50,80	0,00	916736	41336 C	0,150	0,000	0,000	0,710	0,000	0,000	0,012	0,000	0,160



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER PO038946

E-MAILED  
FEB 05 2018

<b>Supplier:</b>	ACI001-VC Acier Ouellette Inc. 935 Boul. Du Havre Valleyfield QC J6S 5L1 Canada Phone: 800 667 4248 Fax: 450 377 5696	<b>PO No:</b>	PO038946
		<b>PO Date:</b>	2/5/18
		<b>Due Date:</b>	2/9/18
		<b>Purchase Order Revision:</b>	
		<b>Revision Date:</b>	
		<b>Ship-To Contact:</b>	Lavoie, Chantal Phone: clavoie@dartaero.com
<b>Ship To:</b>	1270 Aberdeen Street Hawkesbury ON K6A 1K7 Canada Phone: 613-632-5200	<b>Via:</b>	Ground
		<b>Pymt Terms:</b>	Net 30
		<b>Freight Terms:</b>	
		<b>Special Comments:</b>	quotation sou0083186

## Items

Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	M1018R0.375		1010-1025 Round Bar .375 : MATERIAL: AISI 1018-1025 ROUND BAR M1010S20GA AS PER MIL-S-7097 OR ASTM A108	Firmed	2/9/18	12 ft	0 ft	12 ft	\$0.4958333/ft	\$5.95
2	MT-4140QT-R1.250		MT-4140 QT-R1.250	Firmed	2/9/18	20 ft	16 ft	4 ft	\$7.0905/ft	\$141.81
3	MT-4140QT-R3.500		AISI 4140 Quenched & Tempered Steel Round Bar 3.500" Dia.	Firmed	2/9/18	12 ft	0 ft	12 ft	\$50.818333/ft	\$609.82
4	MT-4140QT-R0.500		AISI 4140 Quenched & Tempered Steel Round Bar 0.500" Dia.	Firmed	2/9/18	20 ft	0 ft	20 ft	\$1.4425/ft	\$28.85
5	MT-1144-R1.250		1144 Steel Proof Round Bar 1.250"	Firmed	2/9/18	20 ft	0 ft	20 ft	\$7.7125/ft	\$154.25
6	MT-1144-R1.375		1144 Steel Proof Round Bar 1.375"	Firmed	2/9/18	20 ft	16 ft	4 ft	\$8.6835/ft	\$173.67
7	M6061T6B0.375X01.250		6061-T6 Bar .375 X 1.25 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	2/9/18	20 ft	0 ft	20 ft	\$1.851/ft	\$37.02

FEB 07 2018

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8-89

## PURCHASE ORDER

Items										
Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
8	M6061T6R0.563		6061-T6 Round Bar .563 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117 4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B221 OR ASTM B221 receive ft	Firmed	2/9/18	36 ft	0 ft	36 ft	\$1.0897222/ft	\$39.23
9	MT-4140QT-R1.500		AISI 4140 Quenched &Tempered Steel Round Bar 1.500" Dia.	Firmed	2/9/18	20 ft	0 ft	20 ft	\$9.009/ft	\$180.18

Grand Total: \$1,370.78

## Order Notes

## Procurement Quality Clauses

- A005 right of entry
- A012 chemical and physical test report
- A016 personnel qualification
- A017 raw material identification (as applicable)
- A026 certification of material conformance
- A041 quality management system
- A042 dart notification by supplier
- A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

DAS

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FEB 07 2018



Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Plex 2/5/18 9:01 AM dart.lavoie.chantal

**Quotation**
**SOU0083186**
**Billed to**

DART AEROSPACE LTD

 1270, ABERDEEN ST.  
 HAWKESBURY, Ontario, K6A 1K7

**Shipped to**

, Ontario,

Att : CHANTAL LAVOIE Tél.: 613-632-5200

**Customer N°** CLI0001056

**Date** 2018/01/30

**Revision N°** 0

**Prices valid until** 2018/02/06

**Your Order N°**
**Processed by** Stephanie Dignard

**Salesman** STEPHANIE

**Carrier** OUELLE SDV

**Credit Terms** Net 30 Days

**Page** 1

Product N° and description	Weight	Qty U/M	Qty U/M	Price	Pcs Nb	Price	Amount
ROUND CR 3/16 1018 RANDOM RCR-316-V 5327 OFFER STEEL 1018 CR 1 X 12' R/L	1.13	12.00 PI_\$CLB	12.00 PI	0.12			1.44
ROUND CR 5/16 1018 RANDOM RCR-516-V 5348 OFFER STEEL 1018 CR 1 X 12' R/L	3.13	12.00 PI_\$CLB	12.00 PI	0.21			2.57
ROUND CR 3/8 1018 RANDOM RCR-38-V 5337 OFFER STEEL 1018 CR 1 X 12' R/L	4.51	12.00 PI_\$CLB	12.00 PI	0.50			5.95
ROUND 4140 HEAT TREAT 1 1/4 RANDOM R4140-114H-V 4897 1 X 20' R/L	83.44	20.00 PI_\$CLB	20.00 PI	7.09			141.81
ROUND 4140 HEAT TREAT 3 1/2 RANDOM R4140-312H-V 4941 COUPE A LA SCIE SCIE 1 1 X 12' 2-3 DAYS	406.68	12.00 PI_\$CLB	12.00 PI	50.82			609.82
ROUND CR 3/8 1018 RANDOM RCR-38-V 5337 1 X 12' R/L	4.51	12.00 PI_\$CLB	12.00 PI	0.50			5.95
ROUND CR 3 1018 RANDOM RCR-3-V 5338 COUPE A LA SCIE SCIE 1	288.36	12.00 PI_\$CLB	12.00 PI	31.71			380.49

Date :

Next Page...

**Quotation**
**SOU0083186**
**Billed to**

DART AEROSPACE LTD

 1270, ABERDEEN ST.  
 HAWKESBURY, Ontario, K6A 1K7

**Shipped to**

, Ontario,

Att : CHANTAL LAVOIE Tél.: 613-632-5200

**Customer N°** CLI0001056

**Date** 2018/01/30

**Revision N°** 0

**Prices valid until** 2018/02/06

**Your Order N°**
**Processed by** Stephanie Dignard

**Salesman** STEPHANIE

**Carrier** OUELLE SDV

**Credit Terms** Net 30 Days

**Page** 2

Product N° and description	Weight	Qty U/M	Qty U/M	Price	Pcs Nb	Price	Amount
ROUND 4140 ANNEALED 1/2 RANDOM R4140-12A-V 4905 1 X 20' R/L 2-3 DAYS	13.36	20.00 PI_\$CLB	20.00 PI	1.44			28.85
ROUND CR 3/8 1018 RANDOM RCR-38-V 5337 OFFER STEEL 1018 CR 1 X 12' R/L	4.51	12.00 PI_\$CLB	12.00 PI	0.50			5.95
ROUND STRESSPROOF 1 1/4 RANDOM RST-114-V 5790 1 X 20' R/L STOCK	83.40	20.00 PI_\$CLB	20.00 PI	7.71			154.25
ROUND STRESSPROOF 1 3/8 RANDOM RST-138-V 5801 1 X 20' R/L STOCK	101.00	20.00 PI_\$CLB	20.00 PI	8.68			173.67
FLAT ALU 2 X 2 1/2 6061-T6 RANDOM NS FAL-2212-V 8770 2" X 2-1/4 NOT AVAILABLE, OFFER 2" X 2-1/2 1 X 12' 3-4 DAYS	70.49	12.00 PI_\$CLB	12.00 UN_\$UN	21.56			258.66
FLAT ALU 2 1/2 X 4 1/2 6061-T6 NS FAL-212412 9283 1 X 12' 3-4 DAYS	161.76	12.00 PI_\$CLB	12.00 PI	47.71			572.55
FLAT ALU 3/8 X 1 1/4 6061-T6 RANDOM FAL-38114-V 2609 1 X 20' STOCK	11.02	20.00 PI_\$CLB	20.00 PI	1.85			37.02
ROUND ALU 9/16 6061-T6 RANDOM RAL-916-V 5180 3 X 12' STOCK	10.55	36.00 PI_\$CLB	36.00 PI	1.09			39.23
ROUND 4140 HEAT TREAT 1 1/2 RANDOM R4140-112H-V 4893 1 X 20' STOCK	120.16	20.00 PI_\$CLB	20.00 PI	9.01			180.18

Date :

Next Page...

**ACIER OUELLETTE INC.**

935, Boul. du Hâvre  
Salaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

**Quotation**

SOU0083186

**Billed to**

DART AEROSPACE LTD

1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7**Shipped to**

, Ontario,

Att : CHANTAL LAVOIE Tél.: 613-632-5200

Customer N°	CLI0001056
Date	2018/01/30
Revision N°	0
Prices valid until	2018/02/06
Your Order N°	
Processed by	Stephanie Dignard
Salesman	STEPHANIE
Carrier	OUELLE SDV
Credit Terms	Net 30 Days
Page	3

Product N° and description	Weight	Qty	U/M	Qty	U/M	Price	Pcs Nb	Price	Amount
SURCHARGE ENERGETIQUE FRAIS_ENERGETIQUE			\$						3.95

Total Weight (Lbs) 1 368.01

**Important**

This offer is based on availability and current pricing conditions that may be revised upon reception of the order.

This offer is subject and conditional to credit approval.

Approuved and Accepted by : \_\_\_\_\_

Date : \_\_\_\_\_

Sub-total 2 612.34

TVH-13 · · 339.60

Total (\$CAD)

2 951.94

## Chantal Lavoie

---

**From:** Chantal Lavoie  
**Sent:** Friday, February 02, 2018 1:49 PM  
**To:** Chantal Lavoie  
**Subject:** FW: quote

**From:** Chantal Lavoie  
**Sent:** Monday, January 29, 2018 2:52 PM  
**To:** 'Josianne Bourdon' <j.bourdon@acierouellette.com>  
**Subject:** quote

Good afternoon Josianne,  
Please advise price an delivery on mat'l.

4140 qt round bar 0.187" x 12 ft ✓  
4140 qt round bar 0.3125" x 12 ft ✓  
4140 qt round bar 0.375" x 12 ft ✓  
4140 qt round bar 1.250" x 12 ft ✓  
4140 qt round bar 3.5" x 12 ft ✓

1018 round bar 0.375" x 12 ft ✓  
1018 round bar 3.0125" x 12 ft ✓

4140n round bar 0.500" x 12 ft ✓  
4140n round bar 0.375" x 12 ft ✓

1144 round bar 1.250" x 12 ft ✓  
1144 round bar 1.375" x 12 ft ✓

6061-t6 bar 2" x 2.250" x 12 ft ✓  
6061-t6 bar 2.5" x 4.5" x 12 ft ✓  
6061-t6 bar 0.375" x 1.250" 12 ft ✓

6061-t6 round bar 0.563" x 36 ft ✓

4140H round bar 1.5" x 12ft ✓

Thanks  
Chantal



ARANA Y LUPARDO, 2  
48490 UCAO-MIRAVELLES/VIZCAYA (SPAIN)  
Tfn.: 946180211  
Fax: 946180128  
Email: calibrados@calibradospradera.es  
www.calibradospradera.es

## CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a /Made according to:

EN 10204/DIN 50049

3.1

Nº CERTIFICADO / CERTIFICATE NR.: 49709

ALBARAN 49709 Delivery Note Nr.	CLIENTE LBS ACIERS TRANSDEC (1997) LTÉP CUSTUMER
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Norma : EN 10277

Productos Calibrados de acero. Condiciones únicas de suministro.

Norma :

Bright steel products. Technical delivery conditions.

% C	% Cr	% Cu	% Mn	% Ni	% N	% P	% Pb	% S	% Si
25,40 0,00	916780 41544 C	0,160	0,000	0,000	0,720	0,000	0,000	0,016	0,000
50,80 0,00	916736 41336 C	0,150	0,000	0,000	0,710	0,000	0,000	0,012	0,000
38,10 0,00	916602 41374 IS	0,070	0,000	0,000	1,120	0,000	0,000	0,043	0,240
12,70 0,00	916617 41450	0,130	0,000	0,000	0,769	0,000	0,000	0,015	0,000

Características mecánicas / Mechanical properties

MEDIDA Measurement	OF	COLADA Cast Nr.	Resistencia Tens. strength N/mm <sup>2</sup>	Lím. elástica Yield point 0,256 N/mm <sup>2</sup>	Alargamiento Elongation L <sub>0</sub> = 50 mm.	Dureza HB Hardness HB	Extracción %
63,50	917091	42050 AD	504,00	456,70	15,66	185,00	0,00
6,35	917092	41480 GM	678,70	634,90	7,76	120,00	64,75
23,40	916780	41544 C	612,35	583,92	28,20	169,00	0,00
9,53	915990	40828 G	783,23	761,48	10,92	247,00	0,00
12,70	916617	41450	606,20	550,30	15,40	185,00	61,50
9,53	141111	41776 GM	592,90	531,30	18,50	172,00	66,45
9,53	141131	41776 GM	592,90	531,30	18,50	172,00	66,45
15,88	916940	41731 AA	627,37	594,90	19,38	180,00	58,58
19,05	916887	41645 G	647,30	621,09	15,84	195,00	56,94
9,53	915990	40828 G	783,23	761,48	10,92	247,00	0,00
	916803	40828 G	828,30	792,35	9,76	258,00	47,88
12,70	916617	41450	606,20	550,30	15,40	185,00	61,50
19,05	915992	40808 S	530,32	510,28	34,50	162,00	62,99
22,23	915746	40387 C	628,00	595,00	23,00	180,00	0,00
25,40	916780	41544 C	612,35	583,92	28,20	169,00	0,00
44,45	916031	40716	513,00	324,00	32,10	0,00	0,00
50,80	916736	41336 C	515,00	330,00	34,00	0,00	0,00
25,40	916780	41544 C	612,35	583,92	28,20	169,00	0,00
50,80	916736	41336 C	515,00	330,00	34,00	0,00	0,00
38,10	916602	41374 IS	0,00	0,00	0,00	151,00	0,00
12,70	916617	41450	606,20	550,30	15,40	185,00	61,50

Calidad superficial

DESCRIPCIÓN Description	OF	Clase EN 10377-1
12L14 RED. ESTRADO 63,50 (2 1/2")	917091	2
1018 RED. ESTRADO 6,35 (1/4")	917092	2
1018 RED. ESTRADO 9,53 (3/8")	141111	2
1018 RED. ESTRADO 9,53 (3/8")	141131	2
1018 RED. ESTRADO 15,88 (5/8")	916940	2
1018 RED. ESTRADO 19,05 (3/4")	916887	2
12L14 RED. ESTRADO 38,10 (1 1/2")	916602	2



ARANA Y LUPARDO, 2  
48490 UJOA-NORIA VALLES/VIZCAYA (SPAIN)  
Tfn.: 946480211  
Fax: 946480128  
Email: calpradera@calibradospradera.es  
www.calibradospradera.es

## CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a /Made according to

EN 10284/DIN 50049

3.1

Nº CERTIFICADO / CERTIFICATE NR.: 49709

ALBARAN 49709  
Delivery Note N.º:

CLIENTE: LES ACIERS TRANSUEC (1997) LTÉE  
CUSTOMER

Norma: EN 10277

Productos Calibrados de acero. Condiciones idóneas de envío/steel.

Norm.:

Right steel products. Technical delivery conditions.

Observación: BAÑAS DE ACERO ESTIRADAS EN FRÍO SIN ALCAR

DEPARTAMENTO DE CALIDAD: Certifica que el mencionado producto cumple con las especificaciones del pedido.  
QUALITY DEPARTMENT: Certify that the product fulfills the order specifications.

Fecha/Date: 20/11/2017

Firmado: Susana Perelló Pérez  
Directora de Calidad



Sistema de  
Gestión  
ISO 9001:2008  
Certificado por  
Liderazgo S.A.  
ID 14400000

#4897

R4140-114H-V

TRA-2012

49337 2P

Page 01 of 02

Certification Date  
1-SEP-2017CUSTOMER ORDER NUMBER  
NUMÉRO DE COMMANDE DU CLIENTAC00008879  
PART NUMBER/NUMÉRO DE PIÈCEInvoice Number  
S697041

SOLD TO:	ACIER OUELLETTE INC	SHIP TO:	ACIER OUELLETTE INC.
VENDU À:	22 BOULEVARD J-F KENNEDY ST JEROME QC J7Y 4B6	EXPÉDIÉ À:	22 BOULEVARD J F KENNEDY SAINT JEROME QC J7Y 4

Description: 4140/42 HEAT TREATED GROUND AND POLISHED BAR  
 1-1/4 RD X 24 R/L  
 HEAT: NF16202066 Line Total: 102 LB

ITEM: 506068

Specifications: ASTM A193 GR B7 15      ASTM A434 CL BC 12      ASME SA193 GR B7 15  
 ASTM A108 13      ASTM A29 15

## CHEMICAL ANALYSIS

AL	C	CB	CR	CU	MN	MO	NI
0.025	0.41	0.003	0.96	0.14	0.90	0.17	0.10
P	S	SI	SN				
0.011	0.019	0.25	0.0090				

RCPT: R136834

## COUNTRY OF ORIGIN : USA

## MECHANICAL PROPERTIES

DESCRIPTION	YLD STR KSI	ULT TEN KSI	ELONG IN 02 IN	RED IN AREA	HARDNESS BHN
	122.5	140.0	18.5	55.5	305

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination. /Les informations ci-haut mentionnées sont transcris de certificat d'essais du manufacturier après vérification de l'exactitude des spécifications inscrites sur le certificat. We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description. /Par la présente, nous certifions que le matériau couvert par ce rapport respecte les spécifications décrites ci-haut.  
 The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes. /Un information fausse, fictives ou frauduleuses en rapport avec le résultat des essais sont punissables en vertu des lois fédérales.

Material did not come in contact with mercury while in our possession/Par les présentes, nous certifions que le matériau couvert par ce rapport n'a pas été en contact avec le mercure.

JOANNE DESPRES


MANAGER QUALITY ASSURANCE  
GÉRANT DE L'ASSURANCE QUALITÉ

# CERTIFICATE OF TEST

## CERTIFICAT D'ESAU

Page 02 of 02

CUSTOMER ORDER NUMBER  
NUMÉRO DE COMMANDE DU CLIENT

Certification Date  
1-SEP-2017

AC00008879  
PART NUMBER/NUMÉRO DE PIÈCE

Invoice Number  
S697041

SOLD TO: ACIER OUELLETTE INC      SHIP TO: ACIER OUELLETTE INC.  
VENDU À: EXPÉDIÉ À:  
22 BOULEVARD J-F KENNEDY      22 BOULEVARD J-F KENNEDY  
ST JEROME QC J7Y 4B6      SAINT JEROME QC J7Y 4

Description: 4140/42 HEAT TREATED GROUND AND POLISHED BAR  
1-1/4 RD X 24' R/L  
 HEAT: NF16202066      ITEM: 506068      Line Total: 102 LB  
 END-QUENCH HARDENABILITY (JOMINY - RC)  

1	2	3	4	5	6	7	8	9	10	12	14	16	18	20
57	57	57	57	57	57	56	54	53	51	48	47	44	44	43
24	28	32												
41	39	36												

IDEAL DIAMETER : 5.2 IN GRAIN SIZE : 8

MATERIAL IS FREE FROM MERCURY CONTAMINATION  
NO WELD REPAIR PERFORMED ON MATERIAL  
THERMAL TREATMENT: OK  
AUSTENITIZE TEMP. 1600 F TIME (HR) 1 QUENCH MEDIUM OIL  
TEMPER TEMP 1150 DEG F TIME (HR) 1  
STRESS REL. TEMP. 1050 DEG F TIME (HR) 1.00  
MACRO: OK

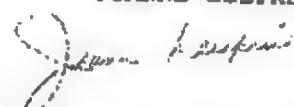
### COMMENTS

surface finish 32 ra  
red. ratio 32.4:1  
melted & mfg in usa  
mill: nucor steel division

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specificities requirements of the information on the certificate. All test results remain on file subject to examination. Les informations ci-haut-recensées sont transcrits du certificat d'essais du manufacturier après vérification de l'ensemble des spécifications inscrites sur le certificat. Nous certifions que le matériel couvert par ce rapport sera conforme aux exigences spécifiques indiquées à l'ensemble de la description. Par les présentes, nous certifions que le matériel couvert par ce rapport sera conforme aux spécifications décrites ci-haut.  
The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes. Les informations fausses, fictives ou frauduleuses en rapport avec le résultat des essais sont punissables en vertu des lois fédérales.

Matériel did not come in contact with mercury while in our possession/Par les présentes, nous certifions que le matériel couvert par ce rapport n'a pas été en contact avec le mercure.

JOANNE DESPRES



MANAGER QUALITY ASSURANCE  
GÉRANT DE L'ASSURANCE QUALITÉ

JL 409

JAL-38114-V

## CERTIFIED INSPECTION REPORT AND TEST RESULTS FOR EXTRUDED PRODUCTS


 Service Center Metals  
 SGS Quality Way  
 Prince George, VA 23875

Part No.



KofC USA

Part Number	Revision	Date of Report	Customer Number	Customer Name	Report Number	Page
321055	R BX082	27/2017	C73827	6061-T6511	SCRB 375X1250	1

We hereby certify that the material covered by this report has been inspected in accordance with the most recent certification revision, and has been found to meet the applicable requirements described herein, including any specifications forming a part of the description, and that samples representative of the material met the composition limits and had the mechanical properties shown. Items produced and certified as 6061-T6511 also meet the requirements of 6061-T6. This product is RoHS-2, REACH, and DFARS compliant.

## Mechanical Properties

Test	Lot No.	Test Date	Ultimate Tensile Strength (kg)	Yield Strength (kg)	Percent Elongation
2	201701928	27/17	min 43.80	max 43.80	min 38.70 max 40.40 min 15.60 max 15.80

## Chemical Composition for Aluminum Alloy 6061

Element	Alloy	Si	Fe	Cu	Mo	Mg	Cr	Zn	Li	Al	Each	Others	Total	Melt Source
002K1701228	201701928	6061	0.61	0.22	0.18	0.07	0.07	0.01	0.02	97.98	0.05	0.15	100.00	United States of America

SCM products are melted and extruded in the USA.

Print Date: 27/2017

Calvin J. Wiggin, Director of Quality &amp; Technical Services

AFCM

#5180

## Service Center Metals

5850 Quality Way

Prince George, VA 23875



RAL-916-V  
CERTIFIED INSPECTION REPORT AND TEST RESULTS  
FOR EXTRUDED PRODUCTS

Po. 12100  
49392

Can No.

MANUFACTURER

344426

LINE NUMBER

RD0370

DATE OF SHIPMENT

9/21/2017

CONTAINER NUMBER

929759

ITEM

2

CARTRIDGE

SPECIFICATION

ASTM-B221-N

No Stencil

INFORMATION

AMS-QQA-2008 Rev-A

MADE IN

the U.S.A.

DESCRIPTION

6061-T6511

SPECIFICATION

D.Schroeder (Canada)

INFORMATION

W

Verifying certify that the material covered by this report has been inspected in accordance with the most recent specification and has been found to meet the applicable requirements described herein, including any specifications forming part of the description of the material, the composition limits and had the mechanical properties shown. Items produced and certified as 6061-T6511 also meet the requirements of 6061-T5.

In aluminum products supplied by Service Center Metals, U.S. Content is no functional measure. Neither aluminum nor its compounds are used in the manufacture of aluminum products at our factory. Furthermore, aluminum products supplied by Service Center Metals have not, to the best of our knowledge, contacted any source of mercury.

SCM is ISO 9001-2015 certified

This product is RoHS, REACH, and GHS-A certified

## Mechanical Properties

Test Lot No.

1

201714853

KJ

Test Date	Ultimate Tensile Strength (ksi)		Yield Strength (ksi)		Percent Elongation	
	min	max	min	max	min	max
9/21/17	47.80	47.80	44.40	44.40	15.80	15.80

## Chemical Composition for Aluminum Alloy 6061

Cast #	Lot No.	Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Li	Al	Each	Others	Total	Melt Source
--------	---------	-------	----	----	----	----	----	----	----	----	----	------	--------	-------	-------------

01M170825B	201714853	6061	0.76	0.36	0.32	0.10	0.86	0.11	0.05	0.03	97.40	0.05	0.15	United States of America
03E170530A	201714853	6061	0.74	0.36	0.32	0.11	0.89	0.16	0.05	0.03	97.32	0.05	0.15	United States of America

CM products are melted and extruded in the USA

Calvin J. Wiggins, Director of Quality &amp; Technical Services

Rev 7/2017

Print Date: 9/21/2017

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL MT1144-R1375  
 DATE FEB 07 2019

PO/BATCH NO 038946/2-3998

MATERIAL CERT REC'D YES  
 QUANTITY RECEIVED 16"  
 QUANTITY INSPECTED 16"  
 QUANTITY REJECTED 0

THICKNESS ORDERED 1.375  
 THICKNESS RECEIVED 1.375  
 SHEET SIZE ORDERED N/A  
 SHEET SIZE RECEIVED N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORROSION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y <input type="radio"/> N	<i>Astan A311</i>
CORRECT THICKNESS	<input checked="" type="radio"/> Y <input type="radio"/> N	
PHOTO REQUIRED	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y <input type="radio"/> N	<i>Next # J4013Y</i>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y <input type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR C	NEC
SIZE OF TEST SAMPLE					
HARDNESS DUROMETER READING					

*testers located in the Quality Office*

## QC 18 INSPECTION

INSPECTED BY: DAS  
 DATE: 9-89 FEB 07 2018

## ENGINEERING SIGNOFF

SIGNED OFF BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received.

**SPECIFICATION CONTROL DRAWING**

PURCHASE MATERIAL: ALSI1144 STRESSPROOF STEEL ROUND BAR  
SPECIFICATION: ASTM A311 or UNS G11440  
PART NUMBER: MT-1144-R [D,DDD]  
WHERE "D,DDD" = DIAMETER IN INCHES  
EG. 5/8" ROUND BAR = MT-1144-R0.625

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-4140QT-R1.250  
 DATE: FEB 07 2018

PO/BAT/CH/NC 038946/039966

MATERIAL CERT REC'D Yes  
 QUANTITY RECEIVED: 16"  
 QUANTITY INSPECTED: 16"  
 QUANTITY REJECTED: 0

THICKNESS ORDERED 1.250  
 THICKNESS RECEIVED 1.250  
 SHEET SIZE ORDERED N/A  
 SHEET SIZE RECEIVED N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORROSION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<i>Astm A36</i>
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
PHOTO REQUIRED	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<i>Hard# NF16202066</i>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK  
 RECORD RESULTS BELOW

TYPE OF MATERIAL	HRC	HRB	DUR A	DUR C	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS DUROMETER READING					

*testers located in the Quality Office*

## QC 18 INSPECTION

## ENGINEERING SIGNOFF (if required)

INSPECTED BY: DAS  
11  
 DATE: 9-8 FEB 07 2018

SIGNED OFF BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received.



# MATERIAL RECEIPT INSPECTION FORM

MATERIAL MT-1144-R1-250  
 DATE: FEB 07 2018

PO/BATCH NO 038946/SC39967

MATERIAL CERT REC'D YES  
 QUANTITY RECEIVED: 22"  
 QUANTITY INSPECTED: 22"  
 QUANTITY REJECTED: 0

THICKNESS ORDERED 1.250  
 THICKNESS RECEIVED: 1.250  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
	Y	N	
SURFACE DAMAGE	Y	N	
CORRECT FINISH	Y	N	
CORROSION	Y	N	
CORRECT GRAIN DIRECTION	Y	N	
CORRECT MATERIAL PER M-DRAWING	Y	N	<i>Astm A311</i>
CORRECT THICKNESS	Y	N	
PHOTO REQUIRED	Y	N	
CORRECT REF # TO LINK CERT	Y	N	<i>Heat #015180</i>
CORRECT MATERIAL IDENTIFICATION	Y	N	
CORRECT M# ON THE MATERIAL	Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK  
 RECORD RESULTS BELOW

TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 16 INSPECTION

ENGINEERING SIGNOFF (if required)

INSPECTED BY: DAS  
11  
 DATE: 9-89 FEB 07 2018

SIGNED OFF BY: \_\_\_\_\_

DATE

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received.



# MATERIAL RECEIPT INSPECTION FORM

MATERIAL M1018R0.375  
 DATE FEB 07 2018

PO/BATCH NO 038946/50389465

MATERIAL CERT REC'D. Y  
 QUANTITY RECEIVED: 12"  
 QUANTITY INSPECTED: 12"  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.375  
 THICKNESS RECEIVED: 0.375  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
	Y	N	
SURFACE DAMAGE	Y	N	
CORRECT FINISH	Y	N	
CORROSION	Y	N	
CORRECT GRAIN DIRECTION	Y	N	
CORRECT MATERIAL PER M-DRAWING	Y	N	<i>Astm A108</i>
CORRECT THICKNESS	Y	N	
PHOTO REQUIRED	Y	N	
CORRECT REF # TO LINK CERT	Y	N	<i>Heat #417766m</i>
CORRECT MATERIAL IDENTIFICATION	Y	N	
CORRECT M# ON THE MATERIAL	Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK  
 RECORD RESULTS BELOW

TYPE OF MATERIAL	HRC	HRB	DUR A	DUR C	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION

ENGINEERING SIGNOFF (if required)

INSPECTED BY: DAS  
11  
 DATE: 9-89 FEB 07 2018

SIGNED OFF BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received.

# SPECIFICATION CONTROL DRAWING

8 7 6 5 4 3 2 1

D

C

PURCHASE MATERIAL: ANSI 1018 1025 ROUND BAR  
 SPECIFICATION: MIL-S-7057 OR ASTM A108  
 PART NUMBER: M1018-R D.DDD WHERE D.DDD = DIAMETER IN INCHES  
 DIA.  
 EG 7/8" ROUND BAR = M1018-R0.875

TOLERANCES:

SIZE	TOLERANCE
UP TO 1.5" INCL	+0.000/-0.002
OVER 1.5" TO 2.5" INCL	+0.000/-0.003
OVER 2.5" TO 4.0" INCL	+0.000/-0.004
OVER 4.0" TO 6.0" INCL	+0.000/-0.005
OVER 6.0" TO 8.0" INCL	+0.000/-0.006

PER ASTM A108 AS FOLLOWS:

B

B	REFORMAT ADD ASTM A108, ADD TOLERANCES	C/P	12-09-05
A	NEW ISSUE	DS	01-06-12
REV.	DESCRIPTION	BY	DATE
DESIGN	DS	DART AEROSPACE LTD	
DRAWN	GP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	A.P.	DRAWING NO.	REV. B
MFG. APPR.	<u>A.P.</u>	M1018-R	SHEET 1 OF 1
APPROVED	<u>A.P.</u>	TITLE	SCALE
DE APPR.	<u>A.P.</u>	1018-1025 ROUND BAR	NTS
DATE	12-09-05	COPYRIGHT © 2001 BY DART AEROSPACE LTD	

8 7 6 5 4 3 2 1

RELEASE  
2012-09-24

A

C

D

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL M606176-B0,375X01.250  
 DATE FEB 07 2018

PO BATCH NO 038946/039981

MATERIAL CERT REC'D Yes  
 QUANTITY RECEIVED 20"  
 QUANTITY INSPECTED 20"  
 QUANTITY REJECTED 0

THICKNESS ORDERED 0.375  
 THICKNESS RECEIVED 0.375  
 SHEET SIZE ORDERED N/A  
 SHEET SIZE RECEIVED N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORROSION	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> <input type="checkbox"/> N	<i>Astan 6221</i>
CORRECT THICKNESS	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
PHOTO REQUIRED	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> <input type="checkbox"/> N	<i>Heat # 201701926</i>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="checkbox"/> <input type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK RECORD RESULTS BELOW				
TYPE OF MATERIAL	HRC	HRB	DURA	DURE
SIZE OF TEST SAMPLE				
HARDNESS DUROMETER READING				

*testers located in the Quality Office*

QC 18 INSPECTION		ENGINEERING SIGNOFF (if req)	
DAS			
INSPECTED BY:	<u>11</u>	SIGNED OFF BY	
DATE:	<u>9-89</u>	DATE	
FEB 07 2018			

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received.



# MATERIAL RECEIPT INSPECTION FORM

MATERIAL 4606H6RC.563  
 DATE FEB 07 2018

PO BATCH NO 058946/5039910

MATERIAL CERT REC'D Yes  
 QUANTITY RECEIVED 36"  
 QUANTITY INSPECTED 36"  
 QUANTITY REJECTED 0

THICKNESS ORDERED 0.563  
 THICKNESS RECEIVED 0.563  
 SHEET SIZE ORDERED N/A  
 SHEET SIZE RECEIVED N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORROSION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<i>A51m B271</i>
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
PHOTO REQUIRED	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<i>Heat# 201714863</i>
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR C	NEUT
SIZE OF TEST SAMPLE					
HARDNESS DUROMETER READING					

*testers located in the Quality Office*

**QC 18 INSPECTION**

**ENGINEERING SIGNOFF** 

INSPECTED BY DAS  
11  
 DATE: 9-89 FEB 07 2018

SIGNED OFF BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received.

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR

SPECIFICATION:

QQ-A-2258 OR AMS-QQ-A-2258 (OR AMS 41174/28/4115/4116)  
OR QQ-A-2008 OR AMS-QQ-A-2008 (OR AMS 4160)

OR ASTM B211 OR ASTM B227

M6061T6RID DDD

DIA.

WHERE "D:DDD" = DIAMETER IN INCHES

EG. 5/8" ROUND BAR = M6061T6R0 625

PART NUMBER:

△B M6061T6ROUND BAR

QQ-A-2258 OR AMS-QQ-A-2258 (OR AMS 41174/28/4115/4116)

OR QQ-A-2008 OR AMS-QQ-A-2008 (OR AMS 4160)

OR ASTM B211 OR ASTM B227

M6061T6RID DDD

DIA.

WHERE "D:DDD" = DIAMETER IN INCHES

EG. 5/8" ROUND BAR = M6061T6R0 625

RELEASED  
R 2009-09-09  
M

REFORMAT DWG. ADD B211A B221 SPEC (ZND8-1),		CP	09 07 13
B	REF PAR 0B020A	DS	01 06 08
A	NEW ISSUE	BY	DATE
REV	REV	REV	DATE
DESIGN	DART AEROSPACE LTD	DRAWING NO	HAWKESBURY, ONTARIO, CANADA
DRAWN		M6061T6R	REV B
CHECKED			SHEET 1 OF 1
MFG APPR			SCALE
APPROVED			NTS
DE-APPR.			
DATE	09.07.13		

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# MATERIAL RECEIPT INSPECTION FORM

MATERIAL MT-4140QT-R1500  
 DATE FEB 07 2018

PC. BATCH NO 038946/5034971

MATERIAL CERT REC'D Yes  
 QUANTITY RECEIVED 23"  
 QUANTITY INSPECTED 23"  
 QUANTITY REJECTED 0

THICKNESS ORDERED 1500  
 THICKNESS RECEIVED 1500  
 SHEET SIZE ORDERED N/A  
 SHEET SIZE RECEIVED N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORROSION	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORRECT THICKNESS	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
PHOTO REQUIRED	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> <input type="checkbox"/> N	Heat # 015180-7506493 A162392
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="checkbox"/> <input type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="checkbox"/> <input type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DURA	DUR E	WEI
SIZE OF TEST SAMPLE					
HARDNESS DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION

INSPECTED BY:

DAS

11

9-89

ENGINEERING SIGNOFF 

SIGNED OFF BY:

DATE:

FEB 07 2018

DATE

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received.



**ACIER OUELLETTE INC.**

935, Boul. du Haïne  
Salaberry de Valleyfield (Québec) J6S 5J1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 880-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 886-456-4242

**Invoice**

FC00074727

**Sold to**

DART AEROSPACE LTD  
1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

**Shipped to**

, Ontario,

Att.: Facturation

**Customer N°**

CL10001056

2018/02/07

**Date**

PO038946

**Your order N°**

France

**Processed by**

STEPHANIE

**Salesman**

OUELLETTE VALLEYFIELD

**Carrier**

Net 30 Days

**Credit Term**

CO00077215

**Order N°**

1

Page 1

Product N° and description	Weight	Qty	U/M	Qty	U/M	Price	Pcs Nb	Price	Amount
ROUND CR 3/8 1018 RANDOM ACR-38-V 5337 1 X 2" R/L HEAT: 61776GM	4.51	12.00	PI_\$/CLB	12.00	PI	0.50	0.00	0.00	5.95
ROUND 4140 HEAT TREAT 1 1/4 RANDOM R4140-1191-V 4897 1 X 1 1/4" DC HEAT: NF16202066	66.75	16.00	PI_\$/CLB	16.00	PI	7.09	0.00	0.00	113.45
ROUND STRESSPROOF 1 1/4 RANDOM 1 RST-114-V 5790 1 X 2" R/L HEAT: 015180	83.40	20.00	PI_\$/CLB	20.00	PI	7.71	0.00	0.00	154.25
ROUND STRESSPROOF 1 3/8 RANDOM RST-138-V 5801 1 X 1 1/4" DC 1 X 4" DC HEAT: 14013Y	80.80	16.00	PI_\$/CLB	16.00	PI	8.68	0.00	0.00	138.96
FLAT ALU 3/8 X 1 1/4 6061-T6 RANDOM FAL-38114-V 2609 1 X 2" HEAT: 201701926	11.02	20.00	PI_\$/CLB	20.00	PI	1.85	0.00	0.00	37.02
ROUND ALU 9/16 6061-T6 RANDOM RAL-916-V 5180 3 X 1 1/2" HEAT: 201714833	10.54	26.00	PI_\$/CLB	36.00	PI	1.09	0.00	0.00	39.23
ROUND 4140 HEAT TREAT 1 1/2 RANDOM 1 R4140-1124-V 4893 1 X 2 3/4" HEAT: A162392	140.16	23.33	PI_\$/CLB	23.33	PI	9.01	0.00	0.00	210.16
SURCHARGE ENERGETIQUE FRAIS_ENERGETIQUE	0.00					\$			3.95



CERTIFICATION  
Rev  
H172279 3

DATE  
10/14/16

PAGE  
7

PURCHASE ORDER 896762	
ORDER 916827-1	
ITEM 141600240Q04A	
CUSTOMER REF V012142	
GRADE Q14140	SHAPE Round
SIZE 1.5000	SIZE IN 38.1000 MM
LENGTH 20' 0" / 24' 0"	LENGTH MM 6096 / 7315.2

4140U2 C45N TRT Q14140 STRESS FREE 130K TS 110K YS (02% 100%) 18% EL 50% RIA SURFACE HBN 269/321 SpecRev. ASME SA193/SA193M-16 GR-B SpecRev. ASTM A320M-15 SpecRev. ASTM A320-00(2012) CL-BC

HEAT	GRANF PRACTICE	SOURCE / HALTED	CAST		REDUCTION RATIO	G
			STEEL DYNAMICS (USA)	BLOOM		
A162892	FINE(B-8)				29.2:1	5.06
C	BN	P	S	Si	NI	CR
0.420	0.000	.013	.015	0.240	0.120	0.960
N	TE	AS	PS	SE	EN	B
.008	N/A	N/A	N/A	N/A	N/A	N/A
MECHANICAL						
Job	TENSILE	2% YIELD	ELONG	ROA	HARDNESS	8% YIELD
HS43559	149,424 PSI	139,398 PSI	17.40	63.10	302	128,646
GRANF PRACTICE						
Job	MACRO	SURFACE	AUTOMATED	TEMPERED	STRESSED	TIME
HS43559	SATISFACTORY	HBN = 311	1650F	6.0 MIN	WATER	1160F
RETEST						4.6 HRS
01	61	60	64	65	64	12
57	57	57	57	57	57	14
50	50	50	50	50	50	16
LOT	Job	WEIGHT (LBs)	PIECES	LOT	Job	WEIGHT (LBs)
6239857	HS43559	6,769	26	6210486	HS43559	4,760
6240069	HS43559	3,272	26	6240480	HS43559	4,079

WE, hereby certify that these goods were produced in compliance with all applicable requirements of sections 6, 7, and 12 of the Fair Labor Standards Act, as amended, and all regulations and orders of the United States Department of Labor issued under section 14 thereof. Material was not exposed to mercury or any metal alloy that is liquid at ambient temperature during processing or while in our possession. No weld repairs performed on the above material.

Walter P. Krelzler - Director of Q.A./Chief Metallurgist

CERTIFICATE OF TEST

By:



ACIER OUVELLETTE INC.

Salaberry de Valleyfield (Québec) J6S 5A1  
Tél.: 450-377-4248 Mtl.: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl.: 514-336-4246 Ext.: 866-456-4242

## Invoice

**Sold to**  
**DART AEROSPACE LTD**  
**1270, ABERDEEN ST.**  
**HAWKESBURY, Ontario,**  
**Canada**

---

## Act : facturation

### Condition:

ESTATE PLANNING

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Subtotal 702.97

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ESTATE PLANNING

200

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四

Total (3CAB) 394.36

# Union Drawn Steel II LP

1350 Burlington Street East, P.O. Box 98  
Hamilton, Ontario, Canada L8N 3A2  
Phone: (905) 547-4480; Fax: (905) 544-3852  
1-800-263-9966

# CERTIFICATE OF ANALYSIS CERTIFICAT D'ANALYSE

DATE 12/08/16 CUSTOMER ORDER NO. B 97262 MILL ORDER NO. 256257-00

PRODUCT DESCRIPTION PRODUCT DESCRIPTION BILL OF LADING BON DE CONNAISSEMENT

L 90 FE17329343 YOUR ITEM # : V720302

1-1/4 RD 1144 20/22 FT

"CENTURY"  
COLD FINISHED STEEL BARS CARBON  
COLD DRAWN & STRESS RELIEF ANNEALED  
STANDARD AISI TOLERANCES  
C .40/.48 MN 1.35/1.65 P .040MAX S .24/.33  
TRANSPORT BY TRUCK - PROTECT WITH TARP  
CHEMICAL & MECHANICAL TEST REPORT REQUIRED  
ASTM A311 CLASS B  
ASTM A108  
FINE GRAIN

COUNTRY OF ORIGIN - CANADA  
HOT ROLL SOURCE : HAMILTON SPECIALTY BAR  
NAFTA CERTIFIED YES: X NO:  
LADLE ANALYSIS/ANALYSE DE LA COUILLER A COULER

HEAT NUMBER 015180

C.	.420	MN.	1.480	P.	.011	S.	.267
SI.	.200	CU.	.170	NI.	.110	CR.	.130
CB.		V.		MO.	.042	PB.	
B.		AL.		SN.			

## MECHANICAL PROPERTIES/PROPRIÉTÉS MÉCANIQUES

HEAT NUMBER 015180

YIELD STRENGTH  
LIMIT D'ÉLASTICITÉ 122000 P.S.I. @ .2% OFFSET  
TENSILE STRENGTH  
RESISTANCE À LA TRACTION 132000 P.S.I.

ELONGATION (2 INCHES)  
ALLONGEMENT 9.000 %

REDUCTION OF AREA  
STRICKTION 26.000 %

HARDNESS  
DURETÉ 255 HB

MAG  
TEST

ROTO  
TEST

ULTRA  
SONIC TEST

NO WELDING OR WELD REPAIR PERFORMED ON THIS MATERIAL.  
THIS MATERIAL WAS NOT EXPOSED TO MERCURY DURING  
PROCESSING OR WHILE IN OUR POSSESSION.

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HAS BEEN TESTED IN ACCORD WITH SPECIFICATION, AND THAT THE RESULTS ARE CORRECT AS CONTAINED IN RECORDS OF THE COMPANY.

PAR LES PRÉSENTES NOUS CERTIFIONS QUE LA MATERIE DÉCRITE A ETÉ  
CONFORMÉMENT AUX SPÉCIFICATIONS, ET QUE LES RÉSULTATS SONT CORRECTS, C  
INDIQUÉ DANS LES REGISTRES DE LA COMPAGNIE.

PERFECT



1412 150th Street  
Hammond IN 46327-1799

## CERTIFICATION

CERTIFICATE	REV
H160610	2
DATE	01/20/16
PAGE	1

PURCHASE ORDER B93364  
ORDER 889675-1  
CUSTOMER ITEM V715431  
ITEM 111375132SP4  
GRADE STRESSPROOF(R) SHAPE Round  
SIZE IN 1.3750 SIZE MM 34.9250 MM  
LENGTH 11' 0" / 12' 6" LENGTH MM 3352.8 / 3810

STRESSPROOF(R) Spec/Rev: Spec/Rev: ASTM A108-13 Spec/Rev: ASTM A29/A29M-12e1 Spec/Rev: ASTM A312/304(2010) CLASS B

HEAT	GRAN FRACTICE	SOURCE / MELTED				CAST	REDUCTION RATIO			DI
J4013Y	COARSE	TATA - Rotherham - SM (UK)				BLOOM	28.1:1			
C	MN	P	S	SI	NI	CR	MO	CU	AL	V
0.478	1.548	.011	.250	0.200	0.070	0.110	.020	.120	.001	N/A
N	TE	AS	PB	SE	BR	B	S	W		
.011	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
JOB	TENSILE	2% YIELD	ELONG	R.D.P.A.	HARDNESS	2% YIELD	SR TEMP			
HS41268	129,335 PSI	101,610 PSI	10.50	26.20	HBW = 262					
LOT	JOB	WEIGHT (LB)	PIECES		LOT	JOB	WEIGHT (LB)	PIECES		
4880281	HS41268	0.030	100		6084315	HS41268	1,900	33		

WE, hereby certify that these goods were produced in compliance with all applicable requirements of sections 6, 7, and 12 of the Fair Labor Standards Act, as amended, and all regulations and orders of the United States Department of Labor issued under section 14 thereof. Material was not exposed to mercury or any metal alloy that is liquid at ambient temperature during processing or while in our possession. No weld repairs performed on the above material.

CERTIFICATE OF TEST

By: *Walter P. Kretzler*

Walter P. Kretzler - Director of Q.A./Chief Metallurgist

# Eaton Steel Bar Company Inspection Certificate 1682418

EN 10204:2004-3.1

Customer	BOL	Ship Date	Customer PO	Item	Customer Item	Item Description
	221248	21-Nov-2017	B33084	11132 rev 004	VI22432	1-34 HHRD 414042MM 24H 580 OTSF TO MAT
All barbets listed below were produced using Melton Heat 75059115 issued by GERDAU MONDORF and were completed from Eaton Steel Job 088561.						
Element	Element		Wt.	Units	Test Method	Value
C	Carbon		0.40000	PHOT	YIELD PSI	141000
Mo	Manganese		0.86000	PHOT	YIELD PSI	98100
P	Phosphorus		0.01300	PHOT	ELONGATION	21.00
S	Sulfur		0.02100	PHOT	REDUCTION	61.0
Ni	Nickel		0.24000	PHOT	DUCTILITY BOMB	297.0
Cr	Chromium		0.98000	PHOT	HEAT TREATING	0.00000
Mo	Molybdenum		0.16000	PHOT	TEMPER TEMP °	500 - 2500
Al	Aluminum		0.02000	PHOT	YIELD TEMP °	1600 - 1700
Co	Copper		0.22000	PHOT	STRESS RELIEF TEMP °	500 - 2500
V	Vanadium		0.00300	PHOT	MAGNETISM %	0 - 20
Cr	Columbium		0.00300	PHOT	TIME AT TEMP	Report
N	Nitrogen		0.00000	PHOT	DUCTILITY MEDIA	PER/O
Pb	Element Sum Test		0.03400	PHOT	STRESS FREQ.	CERTIFIED
DL	Initial Diameter		5.22000	IM	HR145-420F	CONFORM
DL	Clearness	Description	Value	Units	HR145-420F	Value
MACRO STICK	Report Macro stick results.	Description	Value	Units	HR145-420F	Value
Geometry	Dimension	Value	Units	ROLLED COUNTRY	Country	Units
DIMINETER	Diameter	1.7344 - 1.7656	IM	RED RATIO	Reduction Ratio	20-30
Geometry	Dimension	1.7344 - 1.7656	ASTM Standard	RED RATIO	Reduction Ratio	20-30
J1	1/16 inch from Quenched End	56	ASTM	A193/A193M-01	Grade 87	Value
J2	2/16 inch from Quenched End	56	HRC	A194-90a-SC	ASTM SC Tensile and Yield properties	CONFORMS
J3	3/16 inch from Quenched End	56	HRC	Structural	Quenched	Value
J4	4/16 inch from Quenched End	56	HRC	PERCENT TM	Percent Tempered Martensite	80 - 100
J5	5/16 inch from Quenched End	56	HRC	MICROSTRUCTURE	Reported Microstructure	PER
J6	6/16 inch from Quenched End	56	HRC	TM	TM	Value
J7	7/16 inch from Quenched End	56	HRC	Length	Length	Value
J8	8/16 inch from Quenched End	54	HRC	24210	24210	Value
J9	9/16 inch from Quenched End	53	HRC	Length	Length	Value
J10	10/16 inch from Quenched End	53	HRC	Length	Length	Value
J11	11/16 inch from Quenched End	50	HRC	Length	Length	Value
J12	12/16 inch from Quenched End	49	HRC	Length	Length	Value
J14	14/16 inch from Quenched End	47	HRC	Length	Length	Value
J16	16/16 inch from Quenched End	45	HRC	Length	Length	Value
J18	18/16 inch from Quenched End	44	HRC	Length	Length	Value
J20	20/16 inch from Quenched End	43	HRC	Length	Length	Value
J22	22/16 inch from Quenched End	43	HRC	Length	Length	Value
J24	24/16 inch from Quenched End	43	HRC	Length	Length	Value
J26	26/16 inch from Quenched End	39	HRC	Length	Length	Value
J32	32/16 inch from Quenched End	37	HRC	Length	Length	Value

Bundles 1129 with Eaton Steel Identifiers reference the size, grade, heat, purchase order number where applicable, part number, product description and quantity. Material produced in accordance with Eaton Steel's Quality Manual Q4-0020 Rev 0 dated 12/2/2013.

We hereby certify the above to be in conformance, and a true copy of data represented in company records. This steel was not subject to weld repair or exposed to moisture while in the possession of Eaton Steel.

ITEM NUMBER	ITEM NUMBER	ITEM NUMBER	ITEM NUMBER	ITEM NUMBER
164576	10902/4140/4230	25069193	016576 101	0/19/17

WATERW  
PATRICK GRAPTON  
BATON STEEL CORPORATION  
10221 CAPITAL

SPECIAL STEEL

10221 CAPITAL

BATON STEEL CORPORATION

C/O APOLLO HEAT TREAT

10400 CAPITAL STREET

OAK PARK , MI 48237

OAK PARK , MI 48237

OAK PARK , MI 48237

C/O APOLLO HEAT TREAT

10400 CAPITAL STREET

OAK PARK , MI 48237

ITEM NUMBER	ITEM NUMBER	ITEM NUMBER	ITEM NUMBER	ITEM NUMBER
4140	1 3/4" <sup>1/2"</sup>	ASTM	24"	<sup>1/2"</sup>

SPECIFICATION 10902 REVISION 5, 12/12/13, A304-16, A322-13

## CHEMICAL ANALYSIS

	C	Mn	P	S	Ni	Cr	Mo	Cu	Sn	Al
0.40	0.06	0.013	0.021	0.24	0.19	0.98	0.16	0.22	0.009	0.020
V	NB									
0.003	0.003									

GRAIN SIZE SPECIFICATION ASTM A112 FINN GRAIN 5-8

HARDENABILITY SPECIFICATION ASTM A255/A304

THEORETICAL  
J1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 18 20 22 24 26 28 30 32 34  
56 56 56 56 56 56 56 55 54 53 51 50 49 48 47 46 45 44 43 43 41 41 39 33 37

DI CALCULATION SPECIFICATION CAT 109024

5.22

REDUCTION RATIO SPECIFICATION ITEM 10902  
RATIO. 28.3 TO 1.0

PAGE 1  
No classification, grade, and inspection levels are specified for this material.  
Delivery may be made in accordance with the applicable specification.  
100% of the gross weight of the material will be checked.

*Patricia Grapton*  
Patricia Grapton  
Specialty Steel  
Gerdau

CONTINUED ON PAGE 2

GERDAU SPECIAL STEEL NORTH AMERICA  
5511 WEST 108TH ROAD  
JACKSON, MICHIGAN 49203

CERTIFIED MATERIAL TEST REPORT					
164526 SOUTHERN POLE BEAM	10902/4140/20N MATERIAL TEST REPORT	75069193 210mm BILLET	334676 101 10/19/17		

<sup>Sample No</sup>  
PATRICK ORAYTON  
EATON STEEL CORPORATION  
10221 CAPITAL  
OAK PARK, MI 48237

<sup>Sample No</sup>  
EATON STEEL CORPORATION  
C/O APOLLO HEAT TREAT  
10600 CAPITAL STREET  
OAK PARK, MI 48237

<sup>Sample No</sup>  
OAK PARK, MI 48237

ITEM	DESCRIPTION	QUANTITY	WEIGHT
4140	1 3/4" dia	END	24

SPECIFICATION 10902 REVISION E, 12/12/13, A304-15; A322-13

RESIDUAL MAX

SPECIFICATION ITEM 10902

P-4S = 0.0340

RESIDUAL MIN

SPECIFICATION ITEM 10902

P-4S = 0.0340

WELDED/ROLLED A GERDAU XOBROB: SHEETS SAE J422 55/05 RATING  
(XOBST FIELD), ASTM E361 MACRO STICK SATISFACTORY; 41/41/CI, ASTM A29/A29M-16  
• MATERIAL 100% PELETED AND MANUFACTURED IN THE U.S.A. BY THE ELECTRIC  
ARC FURNACE AND CONTINUOUS CASTING METHOD. THE PRODUCT HAS NOT BEEN EXPOSED  
TO MERCURY OR TO ANY OTHER METAL ALLOY THAT IS LIQUID AT AMBIENT  
TEMPERATURE DURING PROCESSING OR WHILE IN OUR POSSESSION.  
GERDAU MONITORS ALL INCOMING SCRAP AND ALL HEATS OF STEEL TO ENSURE THAT  
PRODUCTS SHIPPED ARE FREE OF RADIOACTIVE MATERIAL.

PAGE 2 OF 2

We certify that the above document is a copy and in compliance with specified regulations.

Patrick Orayton  
Eaton Steel Corporation  
10221 Capital Street  
Oak Park, MI 48237

*Patrick Orayton* *Patricia Orayton*





Heat Treating & Processing Company, LLC.

10403 Cipriano Avenue • Oak Park, Michigan 48237 • (248) 398-3434

#### CERTIFICATION OF HEAT TREATMENT

Date: 11/14/2017

Certification Number: 17-08503

Customer Order Number: 826531

Part Number: 10502 - 11132

Heat Number: 75648193

Heat Treat Job Number: 3058

Material: 4140

Quantity: 34 Pcs.

Weight: 64.388 lbs.

Description: 1.7500" Diameter x 24" 3" Length

Per Specification: ESH-NTR5140-42 QT

Heat Treatment	Temperature	Time in Heat	Coolant
Normalized	N/A		
Reheat	N/A		
Austenitized/Normalized	1550°F	45 Minutes	
Quenched	1010°F - 1065°F	N/A	Water
Temper	1220°F	1 Hour 15 Minutes	Air Cooled to Ambient
Temper	N/A		

Method of heat treat monitor, set point thermocouple Type K. Equipment calibrated per ASME TS-06. We hereby certify the above material has been treated in the manner described and correct as contained in the records of Apollo Heat Treating and Processing, LLC.

  
Randy L. Cill  
Plant Manager  
Apollo Heat Treating & Processing, LLC